

## PREFACE

The Executive Committee of the International Astronomical Union, at a meeting in Liège in July 1954, decided to hold a Symposium on the subject of Non-Stable Stars during the Ninth General Assembly of the Union in Dublin, Eire, in August–September 1955. The organization of this Symposium was placed in the hands of a committee consisting of V. A. Ambartsumian (chairman), P. Swings, and G. H. Herbig.

Clearly, if interpreted in a general sense, the subject of instability in stars would be far too large for adequate treatment in the time available for this Symposium. The organizing committee therefore agreed that the subject should arbitrarily be limited to certain areas that are of particular interest at the present time, or that seem to deserve special attention. Invitations to speakers were consequently issued on this basis. Unfortunately, this decision had the effect of eliminating some important topics—such as that of the cepheid variables—from all but incidental discussion. The papers presented at the Symposium, as its organization emerged following considerable correspondence between members of the committee and with other astronomers, fell in these general categories: instability in low-luminosity stars of both late and early type, in the hot stars of rather high luminosity, in late-type variable stars, and in close binary systems. The final section of the Symposium dealt with certain theoretical aspects of stellar instability.

At the Symposium, on account of the pressure of time, only condensed versions of the longer papers could be presented, but their full texts are contained in the present volume. The Soviet astronomers must be commended for having distributed at the Symposium a booklet containing the full versions, in Russian and in either English, German, or French, of most of the papers that were read by members of their delegation. The present volume includes the English texts of these same papers, in a few cases with additions or emendations supplied by their authors in Dublin. It includes also several Soviet contributions that were not circulated at Dublin.

The discussions that followed each section of the Symposium are reported here in a very condensed form. In many cases, the participants in these discussions kindly gave the secretary of the Symposium a written outline of their remarks, but where this was not done, and the sense of the

corresponding discussion has not been reported faithfully, imperfect note-taking by the undersigned is alone responsible.

Acknowledgement must be made of the co-operation that the participants in the Symposium afforded those who were responsible for seeing this volume into and through the Press. Finally, the friendly advice and efficient assistance furnished during the pre- and post-Dublin periods of the Symposium by Prof. O. Struve and Prof. P. Th. Oosterhoff, President and General Secretary of the International Astronomical Union, respectively, are most gratefully acknowledged by the organizing committee as a group, and as an individual, by

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